

## **REMARKS**

Applicants respectfully request reconsideration of this application as amended.

### ***Office Action Summary***

Claims 1-7, 9-11 and 22-28 have been rejected under 35 USC 102(e) as being anticipated by Published US Patent Application 2004/0267113 of Thomson ("Thomson").

Claims 8, 12-16 and 29 have been rejected under 35 USC 103(a) as being unpatentable over Thomson in view of Penny et al., A comparison of Similarity Measures for Use in 2D-3D Medical Image Registration, 17 IEEE Trans. Med. Imaging, 586 (Aug. 1998) ("Penny").

Claim 17 has been rejected under 35 USC 103(a) as being unpatentable over Thomson in view of Penny and further in view of Examiner's Official Notice.

Claim 30 has been rejected under 35 USC 103(a) as being unpatentable over Thomson in view of Penny and further in view of US Patent 6,470,207 of Simon et al. ("Simon").

Claims 18-21 have been objected to as depending from a rejected base claim, but otherwise allowable.

### ***Status of Claims***

At the time the Office Action was mailed, claims 1-30 were pending in the application. In the present response, claims 1-7 have been cancelled without prejudice. Claim 8 has been rewritten in independent form. Claim 9 has been amended to depend from claim 8. Claim 18 has been rewritten in independent form. Claim 23 has been amended to further define an existing limitation. No

new matter has been added and no new claims have been added. Therefore, claims 8-30 remain pending in the application.

### ***Claim Objections***

Claims 18-21 have been objected to as depending from a rejected base claim, but otherwise allowable if rewritten in independent form to include the limitations of the base claim and all intervening claims. Claim 18 has been amended to include the limitations of claims 1, 9 and 16, from which it depended either directly or indirectly. Applicants respectfully submit, therefore, that amended claim 18 is allowable. Applicants submit that claims 19-21 are allowable by virtue of their dependency on claim 18.

### ***Claim Rejections Under 35 USC §103***

Claims 8, 12-16 and 29 have been rejected under 35 USC 103(a) as being unpatentable over Thomson in view of Penny. Claim 17 has been rejected under 35 USC 103(a) as being unpatentable over Thomson in view of Penny and further in view of Examiner's Official Notice. Claim 30 has been rejected under 35 USC 103(a) as being unpatentable over Thomson in view of Penny and further in view of Simon.

Applicants submit that the present application and Thomson were, at the time of the invention of the present application, owned by or subject to an obligation of assignment to Accuray, Incorporated. As such, under 35 USC 103(c), Thomson may not be used in rejecting claims of the present application.

Therefore, applicants request that the rejections of claims 8, 12-17, 29 and 30 under 35 USC 103(a) in view of Thomson, be withdrawn.

### ***Claim Rejections Under 35 USC §102***

Claims 1-7, 9-11 and 22-28 have been rejected under 35 USC 102(e) as being anticipated by Published US Patent Application 2004/0267113 of Thomson ("Thomson"). Claims 1-7 have been cancelled without prejudice, rendering moot the rejections of claims 1-7.

#### **Claims 9-11**

Claim 9 has been amended to depend from claim 8 and therefore includes all of the limitations of claim 8. In particular, claim 9 includes the limitation, "registering said reconstructed images with said x-ray images by computing a set of 3D transformation parameters that represent the change in position of target between said 3D scan and said x-ray images, **wherein said 3D transformation parameters are 3D rigid body transformation parameters**" (emphasis added).

Thomson discloses only "computing the amount the target must be moved to in order to bring the DRRs into registration with the real-time x-ray images," (Thomson, para. [0040]). Applicants submit that Thomson fails to disclose the use of 3D rigid body transformation parameters, as recited in amended claim 9. Therefore, applicants submit that claim 9, as amended, is not anticipated by Thomson. Given that claims 10 and 11 depend from claim 9, and include all of

the limitations of claim 9, applicants submit that claims 10 and 11 are also not anticipated by Thomson.

### **Claim 22**

Claim 22 has been amended to depend from claim 18. Claim 18 has been rewritten in independent form, and has been deemed allowable by the Office Action in that form (10/18/07 Office Action, page 8, para. 21). Applicants submit, therefore, that claim 22 is also allowable.

### **Claims 23-28**

Claim 23 has been amended to include the limitation:

registration means for registering said reconstructed 2D image with said near real time x-ray image, said registration means including means for computing a set of 3D transformation parameters that represent the change in position of said target between said 3D scan and said near real time x-ray image, **wherein said 3D transformation parameters are 3D rigid body transformation parameters** (emphasis added).

As noted above, Thomson does not disclose "3D rigid transformation parameters." Applicants submit, therefore, that claim 23 is not anticipated by Thomson. Given that claims 24-28 depend from claim 23, and include all of the limitations of claim 23, applicants submit that claims 24-28 are not anticipated by Thomson.

### **Conclusion**

In conclusion, applicants respectfully submit that in view of the arguments and amendments set forth herein, the applicable objections and rejections have been overcome.


If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Richard W. Thill at (408) 720-8300.

If there are any additional charges, please charge our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Richard W. Thill  
Registration No. 53,686

12400 Wilshire Boulevard  
Seventh Floor  
Los Angeles, CA 90025-1026  
(408) 720-8300